GENITO-URINARY ORGANS.

I. Some Observations on Rupture of the Urinary Bladder. By Sir WILLIAM MACCORMAC. This paper is based upon two cases of intra-peritoneal rupture of the bladder. In each case abdominal section was performed very shortly after admission into hospital. The rent in the viscus was exposed and carefully closed by numerous interrupted silk sutures. The peritoneal cavity was then thoroughly washed out with warm boric solution and the external wound closed. An uninterrupted recovery followed in both instances, being the first, the author believes, upon record.

CASE I. An old soldier, æt. 33, ran full-tilt against an iron post which struck him in the region of the umbilicus. He fell to the ground, but got up and walked home, a distance of 250 yards, in great pain. He had micturated an hour and a half before the accident. Vomited twice and had constant desire to micturate, but failed. The following day, being unable to pass water and the abdominal pain increasing, he came to the hospital, walking one mile unaided.

On admission, fifteen and a half hours after the accident, the abdomen was distended and tender. There was dulness in both flanks, varying in extent with the position of the patient.

No symptoms of shock. A soft catheter drew off one and a half ounces of blood-stained urine, and on a second occasion 95 ounces of a slightly red-colored fluid by which the level of dulness in the flanks was diminished.

Operation, nineteen hours after the injury. Abdominal section disclosed rent in the posterior aspect of the bladder, extending from the inferior fundus to the recto-vesical cul-de-sac. It was median and vertical and four inches long. Sixteen sutures of fine silk were introduced after Lembert's method, including the serous and muscular coats, only at intervals of about a quarter of an inch, beginning at the lower part which was somewhat difficult to get at, being so deep in the pelvis. A few catgut sutures were also inserted between the others where the closure did not seem perfect. The bladder was proved water tight by moderate distention. The peritoneal cavity was finally irrigated with two gallons of a 1 per cent. solution of boric acid of a temperature of 98° F. There was no sponging of the serous membrane. A glass drainage tube was introduced—from the centre of the wound to the recto-vesical cul-de-sac and the abdominal wound closed by silk sutures. A soft black catheter was fastened in the urethra. The operation lasted two hours and was conducted under carbolic spray. Convalescence was rapid and uninterrupted. The catheter was removed on the third day and the drainage tube on the fourth. Within a fortnight the abdominal incision had cicatrized.

CASE II. A stout man, æt. 37, fell 18 feet off a scaffolding in a sitting posture. He did not consider himself much hurt, but on trying to micturate, failed; however, the desire soon left him. There was no particular pain, nor distress of any kind. The accident took place at 11:45 A. M. He had drunk one pint of beer about a half hour before the accident, and had micturated about the same time. He had also had one pint of beer between 6 and 7 A. M. Towards evening a desire to micturate came on, and a little abdominal pain, both of which symptoms considerably increased by the following morning.

On admission, a No. 6 silver catheter drew off six ounces of coffee-colored urine. The abdomen was tender all over. Resonant in front, but dull in the extreme flanks—the dulness shifting with the patient's position. Temperature 97°. Pulse 143. Operation twenty-seven hours after injury. On laying open the peritoneal cavity a large quantity of clear fluid—serum garnie—escaped. An irregular obliquely placed rent in the bladder was then exposed, situated at the upper and posterior part and slightly to the left of the middle line. It was much more extensive in the outer than in the inner wall, measuring two inches in length, where the peritoneal and muscular coats were torn and a quarter of an inch where the mucous membrane had given way.

The rent was closed by 12 fine silk sutures less than a quarter of an inch apart, and the operation conducted in other respects as in the previous case, with these two exceptions: no catheter was retained in the bladder, as confidence was felt in the complete closure of the vesical wound, nor was a drain used for the peritoneal cavity. A small tube was, however, inserted into the lower part of the abdominal wound, iodoform. Iodoform gauze, salicylic wool were retained in position by carbolic gauze and flannel bandages.

Shortly after the operation the patient involuntarily passed three ounces of urine, and he continued to void a small quantity in this way at short intervals until the following day when he regained control and passed urine every two hours. There was no blood in the urine, and on the third day control was complete, and he emptied the bladder every three or four hours without trouble.

Temperature rose on second and third days to 101°. A fortnight after the operation the patient was quite well.

Sir William lays stress upon the accurate and complete suture of the bladder wound by sutures inserted through the whole thickness of the serous and muscular coats, carefully avoiding the mucous coat. The serous surfaces should be inverted, brought into close contact and the first and last stitches inserted quite beyond the extremities of the wound, so that leakage at either angle, the most common place for it to occur, may be impossible. Carbolized silk is the material recommended. The author points out that when the mucous coat has been pierced in animals the result has nearly always been fatal. The mucous membrane falls between the edges of the wound on drawing the sutures tight, and hinders union. The loop of suture within the bladder is a foreign body, and salts are deposited on it. The urine may find a channel to the interior of the wound or the cavity of the peritoneum through the suture-tracks in the mucous membrane. He considers that the rectal tampon might be of advantage in raising and steadying the bladder. Concerning the retention of a catheter, it is pointed out that this favors the occurrence of septic decomposition within the bladder and hinders the healing process in the rupture. If the rent be sutured effectively the patient runs less risk from moderate distention of the bladder, which is all that can possibly occur in a case properly watched, than he does from the consequences of retaining a catheter for some days within the viscus. Sir William also thinks that the abdominal drainage tube had better be dispensed with excepting in cases where peritonitis has already commenced. In conclusion he strongly advocates the necessity for an earlier interference of bolder practice in these cases.—*Lancet*, Dec. 11, 1886.